REMARKS

The Applicant appreciates the time taken by the Examiner to review the Applicant's present application. This application has been carefully reviewed in light of the Examiner's comments, including the Office Action mailed June 11, 2007. The Applicant respectfully requests reconsideration and favorable action in this case.

Summary of rejections and amendments

The Examiner rejected claims 1, 7, 10, 11 and 19 under 35 U.S.C. §102(b), and claims 2-6, 8-9, 12-18 and 20-21 under 35 U.S.C. 103(a). The Applicant has amended claim 6, canceled claims 17-18, and added new claims 22 and 23. Claims 1-16 and 19-23 are therefore pending in the application.

Rejections under 35 U.S.C. §102

Claims 1, 7, 10, 11 and 19 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,648,922 ("Han"). The Applicant respectfully traverses this rejection.

In order to anticipate a claim, the reference must teach every element of the claim. The elements must be arranged as required by the claim, and must be shown in as complete detail as is contained in the claim. M.P.E.P. 2131. The Applicant respectfully submits that the Han reference fails to disclose the elements of the claims, as arranged in the claims, and in as much detail as is contained in the claims. Han therefore fails to anticipate the claims.

With respect to claim 1, the Examiner states that Han discloses a method including all the limitations of the claim. While the Applicant agrees that Han teaches storing a plurality of sets of filter coefficients, Han fails to disclose selecting one of these filter coefficient sets, interpolating the selected filter coefficient set and then convolving an input signal with the interpolated filter coefficient set.

The Examiner states that Han teaches at col. 3, lines 10-28, that one of the sets of filter coefficients is selected. This portion of Han actually teaches that all of the stored sets of filter coefficients (C1-C4) are used (see lines 21-28), rather than teaching that only one is selected. In fact, a number of the sets of filter coefficients are combined (see col. 3, lines 21-22 and col. 4, lines 47-65). Han therefore fails to disclose this limitation of claim 1.

The Examiner further states that Han teaches at col. 2, line 57, through col. 3, line 6, that the selected set of filter coefficients is interpolated. In fact, this portion of Han has no disclosure whatsoever regarding the interpolation of any filter coefficients. Instead, it teaches that the input

data is up-sampled. This is reiterated at col. 5, lines 10-29). Han therefore fails to disclose this limitation of claim 1 as well.

The Examiner finally states in regard to claim 1 that Han teaches convolving the interpolated filter coefficients with an input signal to produce a filtered output signal (citing col. 5, lines 10-29). As noted above, Han teaches that the input data, rather than the filter coefficients, are up-sampled (see col. 5, lines 10-18). Han therefore also fails to disclose this limitation of claim 1.

Since Han does not teach the selection of only one of the sets of filter coefficients, or the interpolation of the selected set of filter coefficients, or the convolution of the interpolated set of filter coefficients with the input data, the Han reference does not teach every element of the claim, arranged as required by the claim, and in as complete detail as is contained in the claim, as required by M.P.E.P. 2131. Therefore, under M.P.E.P. 2131, Han fails to anticipate claim 1. The Applicant therefore respectfully requests that the rejection of claim 1 be withdrawn.

The Examiner rejects claims 10 and 11 for the same reasons as claim 1. The Applicant points out that Han fails to anticipate claims 10 and 11 for the same reasons the reference fails to anticipate claim 1, and therefore respectfully requests that the rejection of claims 10 and 11 be withdrawn. Further, since all of the claims that depend from claims 1 and 10 include the limitations of these claims, the Han reference fails to teach these limitations as to the dependent claims and consequently fails both to anticipate these claims and to render the claims obvious (see M.P.E.P. 2143). The Applicant therefore respectfully requests that the rejections of the dependent claims be withdrawn as well.

<u>Rejections under 35 U.S.C. §103</u>

Claims 2-4 and 12-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Han. The Examiner states that Han does not disclose that the input signal is an audio signal, that the input signal is convolved in a sample rate converter, or that the sample rate converter is implemented in a PWM amplifier. The Examiner takes official notice that these limitations were well known in the art at the time the invention was made.

Claims 5-6 and 15-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Han in view of U.S. Patent No. 5,928,313 ("Thompson"). The Examiner states that Han does not disclose the limitations of these claims, but asserts that they are disclosed by Thompson.

Claims 8-9 and 20-21are rejected under 35 U.S.C. §103(a) as being unpatentable over Han in view of U.S. Patent No. 6,411,333 ("Auld"). The Examiner states that Han does not disclose the limitations of these claims, but asserts that they are disclosed by Auld.

The Applicant respectfully traverses the rejections under 35 U.S.C. §103(a). M.P.E.P. 2143 states:

> To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

As explained above, Han fails to disclose all of the limitations of independent claims 1 and 10. Because claims 2-6, 8-9, 12-18 and 20-21 include the limitations of the independent claims, Han fails to disclose all of the limitations of these claims for the same reasons as the independent claims. Specifically, Han fails to disclose the limitations of selecting <u>one</u> of the sets of filter coefficients, <u>interpolating</u> the selected set of filter coefficients, and convolving the <u>interpolated set</u> of filter coefficients with the input data. The Examiner does not assert that these limitations were well known in the art of the invention at the time the invention was made, or that any of the other cited references disclose these limitations. Consequently, the Examiner has failed to make a prima facie case of obviousness of claims 2-6, 8-9, 12-18 and 20-21 in accordance with M.P.E.P. 2143.

The Applicant notes that claims 2-6, 8-9, 12-18 and 20-21 may be distinguished from the cited prior art references for various other reasons as well. For instance, claims 5 and 15 recite storing a filter selection value in a register, where the stored value indicates which one of the sets of filter coefficients is selected for interpolation and convolution with the input signal. While the Examiner asserts that a person of ordinary skill would be motivated to combine Han with Thompson to arrive at the recited invention, the Applicant points out that Han uses <u>all</u> of the stored filter coefficients (col. 3, lines 21-28) instead of selecting a single one of the sets. Because Han does not choose between the sets of filter coefficients, a register indicating one of the sets would serve no purpose in Han's system. There would therefore be no motivation for a person of ordinary skill to combine the register of Thompson with the system of Han. It is only the disclosure of the <u>present application</u> that suggests the selection of a single one of the sets of coefficients. Using the teaching of this application in the rejection of the present claims, however, would be impermissibly using hindsight to construct the invention (see M.P.E.P. 2143.01).

New claims

Claims 22 and 23 have been added to the application. Claim 22 is similar to claim 1, but explicitly states that only one of the sets of filter coefficients is selected. This claim also omits the label "first" to remove any implication that additional sets of coefficients might be selected. No new subject matter is added by the claims.

Conclusion

The Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action.

For at least the foregoing reasons, the Applicant respectfully requests allowance of all claims pending in the application. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

If any extensions of time are necessary to prevent the above referenced application from becoming abandoned, the Applicant hereby petitions for such extensions. If any fees are inadvertently omitted, or if any additional fees are required, or if any amounts have been overpaid, please appropriately charge or credit those fees to Deposit Account No. 50-3085 of the Law Offices of Mark L. Berrier.

Respectfully submitted,

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